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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,549	01/05/2006	Francis Humblot	FR-AM 1964 NP	8562
31684	7590	01/22/2008		
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222			EXAMINER NGUYEN, HUY TRAM	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 01/22/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,549	Applicant(s) HUMBLOT, FRANCIS	
	Examiner Huy-Tram Nguyen	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>January 30, 2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 8, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by **Watson et al. (US Patent No. 5,853,619)**.

Regarding Claim 1, Watson et al. reference discloses A process for combating, the corrosion by naphthenic acids (**Column 1, Lines 16-17 – organic acidizing fluids**) of the metal walls of a refining plant (**Column 1, Line 15 – refinery unit**), characterized in that it comprises the addition, to the hydrocarbon stream to be treated by the refining plant, of an effective amount of a compound of formula (**Column 2, Lines 51-52 – being introduced in the liquid**):

HS-B-COOR (I) (**Column 1, Lines 57-58 - mercaptocarboxylic acid - SH-R-COOH**) in which:

- B represents a saturated divalent hydrocarbon radical which can either be acrylic, in the linear or branched form, or cyclic and which comprises from 1 to 18 carbon atoms (**Mercaptocarboxylic group**) ; and

- R represents a hydrogen atom, an alkali or alkaline earth metal, an ammonium group, or an alkyl (linear or branched), cycloalkyl, aryl, alkylaryl or arylalkyl radical, said

radical comprising from 1 to 18 carbon atoms, and optionally one or more heteroatoms
(hydrogen atom).

Regarding Claim 2, Watson et al. reference discloses the process as claimed in claim 1, characterized in that the compound of formula (I), comprises thioglycolic acid or esters thereof **(Column 3, Line 6 – thioglycolic acid)**

Regarding Claim 4, Watson et al. reference discloses the process as claimed in claim 1, characterized in that the amount of compound of formula (I) added corresponds to a concentration, expressed as equivalent weight of sulfur, with respect to the weight of the hydrocarbon stream, ranging from 10 to 5000 ppm **(Column 2, Lines 51-58 – .001 to 198ppm).**

Regarding Claim 8, Watson et al. reference discloses the process as claimed in claim 1, characterized in that said divalent hydrocarbon radical comprises 1 to 4 carbon atoms **(Column 1, Lines 57-58 – 2-6 carbon atoms).**

Regarding Claim 11, Watson et al. reference discloses the process as claimed in claim 1, characterized in that the amount of compound of formula (I) added corresponds to a concentration, expressed as equivalent weight of sulfur, with respect to the weight of the hydrocarbon stream, ranging from 50 to 500 ppm **(Column 2, Lines 51-58 – .001 to 198ppm).**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson et al. (**US Patent No. 5,853,619**).

Regarding Claims 5 and 12, Watson et al. reference discloses the process as claimed in claim 1 except for the TAN levels of the treated hydrocarbon stream. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hydrocarbon streams with the claimed TAN levels, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding Claims 6 and 13, Watson et al. reference discloses the process as claimed in claim 1 except for the temperatures in which the process being carried out. It would have been obvious to one having ordinary skill in the art at the time the invention was made to the claimed operational temperatures, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum

or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding Claim 7, Watson et al. reference discloses the process as claimed in claim 1 except for the hydrocarbon stream to be treated being chosen from a petroleum crude oil, an atmospheric distillation residue, gas oil fractions resulting from atmospheric distillations, gas oil fractions resulting from vacuum distillations, and a vacuum distillate or residue resulting from vacuum distillation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the claimed hydrocarbon streams in any oil and gas-field applications of Watson et al.

Claims 3 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Watson et al. (US Patent No. 5,853,619)** in view of **Takahashi et al. (US Patent No. 4,981,828)**.

Regarding Claim 3, Watson et al. reference discloses the process as claimed in claim 1 except for said compound of formula (I) comprises 2-ethylhexyl thioglycolate, isooctyl thioglycolate or methyl thioglycolate. Takahashi et al. reference discloses similar sulfiding agents (**Column 4, Line 66-column 5, Line 4 – mercaptoacetic acid, methyl mercaptoacetate and 2-ethylhexyl mercaptoacetate**). It would have been obvious to use the claimed esters as taught by Takahashi et al. in place of the mercaptoacetic acids of Watson et al. and get a similar metal corrosion protection.

Regarding Claim 9, Watson et al. reference discloses the process as claimed in claim 1 except for said alkyl (linear or branched), cycloalkyl, aryl, alkylaryl or arylalkyl radical comprises from 1 to 10 carbon atoms. Takahashi et al. reference discloses

similar sulfiding agents represented by the general formula, $\text{HS}-(\text{CH}_2)_n-\text{COOR}$ (**Column 4, Lines 59-65 – wherein R stands for a linear or branched naphthenic alkyl group**) to be used in a hydrogenation, hydro-desulphurization, hydro-denitrification, hydrogenolysis of a hydrocarbon oil. It would have been obvious to use the mercaptocarboxylic esters as taught by Takahishi et al. in place of the mercaptocarboxylic acids of Watson et al. and get a similar metal corrosion protection.

Regarding Claim 10, Watson et al. reference discloses the process as claimed in claim 2 except for the aliphatic ester group. Takahashi et al. reference discloses similar sulfiding agents represented by the general formula, $\text{HS}-(\text{CH}_2)_n-\text{COOR}$ (**Column 4, Lines 59-65 –R stands for a linear or branched naphthenic alkyl group**) to be used in a hydrogenation, hydro-desulphurization, hydro-denitrification, hydrogenolysis of a hydrocarbon oil. It would have been obvious to use the mercaptocarboxylic esters as taught by Takahishi et al. in place of the mercaptocarboxylic acids of Watson et al. and get a similar metal corrosion protection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy-Tram Nguyen whose telephone number is 571-270-3167. The examiner can normally be reached on MON- THURS: 6:30 AM - 5:00 PM.

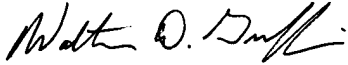
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HTN
1/4/07


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER